

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

541362  
PCT/FR2004/000003



Applicant's or agent's file reference SG1020-18	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/FR2004/000003	International filing date (day/month/year) 05 janvier 2004 (05.01.2004)	Priority date (day/month/year) 06 janvier 2003 (06.01.2003)
International Patent Classification (IPC) or national classification and IPC A61L 27/26, A61K 47/30		
Applicant ASSISTANCE PUBLIQUE - HOPITAUX DE PARIS		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 29 octobre 2004 (29.10.2004)	Date of completion of this report 14 April 2005 (14.04.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FR2004/000003

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ The international application as originally filed/furnished
- ☒ the description:
- pages \_\_\_\_\_ 1-25 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ 1-20 \_\_\_\_\_ received by this Authority on 02 November 2004 (02.11.2004)
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages \_\_\_\_\_ 1/1 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1 - 19	YES
	Claims	20	NO
Inventive step (IS)	Claims	1 - 19	YES
	Claims	20	NO
Industrial applicability (IA)	Claims	1 - 20	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

1. The present notification makes reference to the following documents:

D1 : EP 0 826 381 A (MENLO CARE INC) 4 March 1998  
(1998-03-04)

D2 : EP 0 466 300 A (BIOMATRIX INC) 15 January  
1992 (1992-01-15)

D3 : EP 0 291 177 A (BIOMATRIX INC) 17 November  
1988 (1988-11-17)

D4 : BAJAJ, P. ET AL: "Studies on acrylonitrile-  
hydroxyalkyl-methacrylate copolymer fibres"  
TEXTILE RESEARCH JOURNAL (1980), 50(4), 218-23,  
1980, XP009014272

D5 : BAJAJ, P. ET AL: "Copolymerization of  
acrylonitrile with 2-hydroxyalkyl methacrylates"  
JOURNAL OF POLYMER SCIENCE, POLYMER CHEMISTRY  
EDITION (1979), 17(2), 595-602, 1979, XP009014275

Document D1 describes an aqueous composition for injection in a patient's tissue, including cross-linked polymer particles, such as polyacrylate or polyacrylamide, and a low molecular weight polymer such as polyacryl. Said composition is useful for

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treating urinary incontinence.

Document D2 describes an aqueous composition for injection in a patient's tissue, including cross-linked polymer particles, such as starch, cellulose derivatives or polyacrylate, distributed in a solution including a polymer such as polyacrylate or cellulose.

Document D3 describes embolisation compositions including cross-linked hyaluronic acid gels and a polymer such as a cellulose derivative or polyethylene, and, optionally, a radio-opaque compound.

Document D4 describes acrylonitrile and hydroxypropylmethacrylate copolymers dissolved in DMF.

Document D5 describes acrylonitrile and hydroxypropylmethacrylate copolymers dissolved in DMSO.

2. Novelty (PCT Article 33(1) and (2)):

2.1 INDEPENDENT CLAIM 1

The composition according to claim 1 differs from the ones described in the prior art as represented by documents D1-D3 in that the linear polymer and the cross-linked hydrophilic polymer are water-insoluble. The subject matter of said claim is

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therefore novel (PCT Article 33(2)).

## 2.2 INDEPENDENT CLAIMS 18 AND 19

Claims 18 and 19 are directed to a composition as per claim 1, used for filling vessels and cavities and for surgical purposes. In so far as the compound as per claim 1 is novel, claims 18 and 19, which refer back thereto, also meet the requirements of PCT Article 33(2).

## 2.3 INDEPENDENT CLAIM 20

The acrylonitrile and hydroxypropylmethacrylate copolymers described in D4 are dissolved in DMF. Although said solvent involves certain toxicological risks, it is not considered to be non-biocompatible, since it can be used in vivo. Claim 20 is therefore not novel over D4.

## 3. Inventive step (PCT Article 33(1) and (3)):

3.1 The prior art does not contain any indication with regard to combining a water insoluble linear polymer and a water insoluble cross-linked polymer in a particle suspension. The use of such compositions for filling cavities is not described.

Claims 1 and 18-19, as well as dependent claims 2-17 meet the requirements of PCT Article 33(1) and (3).

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3.2 The use of an alternative solvent to DMSO, such as DMF, described in D5, would be obvious for a person skilled in the art: consequently, documents D4 and D5 suggest, in combination, all the features defined in independent claim 20. Therefore, the subject matter of said claim is not inventive (PCT Article 33(3)).